

workpiece on the opposite side of the workpiece support and shielding the engaged portion of the workpiece during processing thereof to prevent processing on the engaged portion of the workpiece.

22. (New) An apparatus as in claim 21 further comprising a shield restraint clamp for holding the shield against the portion of the workpiece.
23. (New) An apparatus as in claim 22 further comprising a shield restraint press for pressing on the shield restraint clamp so that the shield is pressing against the portion of the workpiece.
24. (New) An apparatus as in claim 23 in which the shield restraint press employs a spring action for pressing on the shield restraint clamp.
25. (New) An apparatus as in claim 22 further comprising a shield restraint support for supporting the shield restraint clamp so that the shield and the shield restraint clamp are spaced apart when the workpiece is disengaged from the shield.
26. (New) An apparatus as in claim 21 further comprising a shield support for supporting the shield so that the shield and the workpiece are spaced apart when the workpiece is disengaged from the shield.

27. (New) An apparatus as in claim 26 further comprising a shield aligner connected to the shield and the shield support for aligning the shield with the shield support.
28. (New) An apparatus as in claim 21 further comprising an actuator for engaging and disengaging the shield with the portion of the workpiece.
29. (New) An apparatus as in claim 28 in which the actuator comprises a movable shaft connected to the workpiece support.
30. (New) An apparatus as in claim 21 in which the workpiece support has a top surface, the top surface of the workpiece support is circular and the shield has an annular form.
31. (New) A replaceable workpiece shielding apparatus for replaceably preventing processing on the engaged portion of the workpiece comprising:
- a) a workpiece support for supporting the workpiece;
 - b) a replaceable shield of comparable weight as the workpiece for allowing replacement of the shield in the same way as the replacement of the workpiece, the shield engaging a portion of the workpiece on the opposite side of the workpiece support and shielding the engaged portion of the workpiece during processing thereof to prevent processing on the engaged portion of the workpiece;

- c) an actuator to move and engage and disengage the shield with the portion of the workpiece;
- d) a shield restraint clamp for holding the shield against the portion of the workpiece; and
- e) a cavity defined by the workpiece support, the workpiece, the shield and the shield restraint clamp, the cavity adapted to retain a non-reactive gas in the vicinity of the shielded portion of the workpiece.

32. (New) An apparatus as in claim 31 in which the shield restraint clamp stays close to the workpiece support so that the cavity retaining the non-reactive gas has no large leak when the shield is engaged with the workpiece.
33. (New) An apparatus as in claim 31 in which the workpiece is a semiconductor wafer, and the cavity retains the non-reactive in the vicinity of the circumferencial edge of the semiconductor wafer.
34. (New) An apparatus as in claim 31 further comprising a shield restraint press for pressing on the shield restraint clamp so that the shield is pressing against the portion of the workpiece.
35. (New) An apparatus as in claim 34 in which the shield restraint press employs a spring action for pressing on the shield restraint clamp.

36. (New) An apparatus as in claim 31 further comprising a shield support for supporting the shield so that the shield and the workpiece are spaced apart when the shield is disengaged from the workpiece.
37. (New) An apparatus as in claim 36 further comprising shield aligner connected to the shield and the shield support for aligning the shield with the shield support.
38. (New) An apparatus as in claim 31 further comprising a shield restraint support for supporting the shield restraint clamp so that the shield and the shield restraint clamp are spaced apart when the shield is disengaged from the workpiece.
39. (New) An apparatus as in claim 31 in which the actuator comprises a movable shaft connected to the workpiece support.